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2. **Local Committee of Management of Wicken Fen.**
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   [Delegates nominated by Committee for the Protection of British Insects.
3. **National Trust for Places of Historic Interest or Natural Beauty.**
   Mr. W. G. Sheldon, appointed 1922.
4. **New Forest Association.**
   Mr. W. Fassnidge, appointed 1934.
5. **Royal Meteorological Society. Phenological Committee.**
   Dr. C. B. Williams, appointed 1937.

ON THE GENUS *CRINORRHINUS* MARSHALL (COL., CURC.)

By Sir Guy A. K. Marshall, K.C.M.G., D.Sc., F.R.S., F.Z.S.

When the genus *Crinorrhinus* was first proposed (1941, *Ann. Mag. nat. Hist.* (11) **8** : 373), it comprised only four described species; six additional new species are now recorded, the types of which are in the British Museum (Natural History).

As at present known, the genus is best represented in central and southern India (9 species); only two species have so far been recorded from Burma, and of one of these (*strabo* Marshall) a single specimen has been seen from Siam.

Key to the species of *Crinorrhinus*.

1 (2). Forehead much narrower than an eye (half to two-thirds); femora with a small spine-like tooth without any carina distally *strabo* Marshall 1941.

2 (1). Forehead only very slightly narrower to slightly wider than an eye; femora with a triangular tooth continuing distally as a carina.

3 (4). Elytra with the alternate intervals costate, the basal margin between intervals 3 and 5 obtusely elevated; forehead with a very large median fovea; funicle with joint 2 much longer than 1 *foveifrons* Faust.

4 (3). Elytra with the intervals of equal height, the basal margin not raised.

5 (8). Forehead with a deep round median fovea (sometimes almost concealed by scaling or powder) on a line with hind margin of eyes; funicle with joint 2 slightly longer than 1.

6 (7). Forehead slightly narrower than an eye, convex transversely; elytra with discal intervals shiny, without granules, costate at base; metepisterna sulcate throughout (sulcus often concealed by powder) *crassirostris* Faust.

7 (6). Forehead slightly wider than an eye, flatter transversely; elytral intervals with sparse minute granules, not costate at base; metepisterna not sulcate, except at apex . . . . *approximans* sp. n.

8 (5). Forehead with a short median sulcus at about middle of eyes.

9(12). Elytra clothed only with narrow setiform scales.

10(11). Rostrum much longer than its basal width, parallel-sided in its basal half, broadly dilated at the genae, the dorsal area rapidly narrowed basally and there much narrower than the forehead; elytra unevenly clothed with coppery setae; front femora with a small tooth *cuprisetis* sp. n.

11(10) Rostrum about as long as its basal width, narrowed from base to antennae, only slightly dilated at the genae and there not wider than at base, the dorsal area subparallel-sided in its basal half and there nearly as wide as the forehead; elytra with uniform grey setae; front femora with a large tooth . . . . . *griseus* sp. n.

12 (9). Elytra with patches of round or ovate scales among the setiform scales.

13(14). Funicle with joint 2 distinctly longer than 1; forehead broadly depressed; elytra with apices shortly produced and acuminate *disjunctus* Faust.

14(13). Funicle with joint 2 not longer than 1; forehead flat; elytra without any definite marginal stripe.

15(16). Rostrum not longer than its basal width, gradually narrowed from base to antennae, slightly dilated at the genae and there scarcely wider than at base; prothorax truncate at base; elytra with the apices separately rounded, not produced . . . . . *sartus* sp. n.

16(15). Rostrum longer than its basal width, parallel-sided in the basal half, strongly dilated at the genae and there much wider than at base; prothorax shallowly bisinuate at base; elytra with the apices separately and sharply acuminate and shortly produced.

17(18). Rostrum separated from head by a shallow impression, the lateral longitudinal sulcus in front of eye broad, shallow and oblique; prothorax narrower at base than at apex; setae on elytra and pronotum dark . . . . . *sparsutus* sp. n.

18(17). Rostrum separated from head by a deep impression, the lateral sulcus very deep, narrow and parallel to the dorso-lateral carina; prothorax not narrower at base than at apex; setae on upper surface pale *nebulosus* sp. n.

Crinorrhinus approximans sp. n.

♂♀. Derm dull black to piceous; prothorax with sparse short pale setae dorsally and usually with an indefinite lateral stripe of narrow yellowish scales; elytra with fairly dense short fulvous setae and scattered groups of small yellowish ovate scales towards sides and apex, especially in the striae; underside with fairly dense narrow pale scales and sparse suberect setae, often with whitish powder.

Head shiny, almost impunctate, with subrecumbent pale setae and sometimes subrecumbent narrow scales; forehead very slightly broader than an eye, flat, with a round median fovea. *Rostrum* separated from head by a well-marked impression, somewhat longer than its basal width, very slightly narrowed from base to antennae, moderately dilated at the genae and there a little wider than at base; the dorsal area impunctate, shallowly depressed, rarely with a very short median carina at apex, the lateral carinae rapidly convergent behind, almost straight; the lateral areas with a carina joining the dorso-lateral one beyond middle, and below it a broad longitudinal sulcus and a shallow one below this. *Antennae* with the scape curved beyond middle; funicle with joint 2 a little longer than 1, and 3 slightly longer than 4. *Prothorax* feebly rounded laterally, not or but slightly narrowed at apex and there not narrower than the bisinuate base, postocular lobes moderate; dorsum rugosely punctate, with a trace of a median carina and two round shallow post-median depressions. *Elytra* almost parallel in ♂ from the roundly rectangular shoulders, widened behind middle in ♀, separately subacuminate at apex; the shallow striae with strong close punctures, the intervals flat or feebly convex, with numerous minute granules. *Legs* with sparse pale setae, the posterior femora with a subapical patch of narrow scales; the femoral tooth large, triangular.

Length 4·5–6·5 mm., breadth 1·6–3·0 mm.

India: Bombay Pres., Matheran, 2500 ft., 5 ♂, 4 ♀ (type); Bombay, Surat, 1 ♂, viii.1904 (*H. M. Lefroy*); Bombay, Belgaum, 1 ♂, iv.1908; Bombay, Bassein, 1 ♂, 1 ♀, x.1909; Orissa, Puri, Khurda, 1 ♀; Central Prov., Hoshangabad, Rahabgaon, 1 ♂, 4 ♀, defoliating teak, viii.1926 (*S. N. Chatterjee*).

Closely allied to *C. crassirostris* Faust, which differs, in addition to the characters given in the key, in having no broad scales on the elytra, which appear to be normally covered with white powder, of which there is no trace in *approximans*.

Crinorrhinus cuprisetis sp. n.

♂♀. Derm red-brown; prothorax with rather sparse pale setae which do not form a denser stripe laterally; elytra with rather dense yellowish setae having a coppery reflection, more or less variegated with almost bare indefinite spots and patches on the disk; underside thinly and evenly clothed with finer grey or coppery setae.

Head with coarse close shallow punctation and evenly setose; forehead about as broad as an eye, flat, with a short median sulcus anteriorly. *Rostrum* separated from head by a deep impression, much longer than its basal width, parallel-sided in the basal half and strongly dilated at the genae; the dorsal area coarsely but shallowly punctate, somewhat depressed in the middle, the lateral carinae converging rather rapidly behind, with a feeble narrow median carina on the anterior half and a variable obtuse transverse ridge near apex; the lateral areas with a carina (and rarely a second) close to the dorso-lateral one and uniting with it above the scrobe, and below it a deep longitudinal sulcus and a curved one beneath this. *Antennae* with the scape almost straight; funicle with joint 2 equal to 1 and 3 equal to 4. *Prothorax* rounded laterally, widest at middle, narrowed but not constricted at the apex, which is a little narrower than the bisinuate base, postocular lobes distinct; dorsum closely and coarsely punctate, with a variable median carina (sometimes almost complete), a shallow transverse impression beyond middle and two round postmedian depressions. *Elytra* with rather oblique shoulders, almost parallel in ♂, somewhat dilated behind middle in ♀, the apices separately rounded; the shallow striae with strong separated punctures, the intervals somewhat broader than the striae, feebly convex and with numerous minute granules. *Legs* with rather sparse pale setae, the hind femora only with a denser band near apex; the femoral tooth small, but triangular, and continued distally as a carina.

Length 5·5–7·5 mm., breadth 2·5–3·3 mm.

India: 2 ♀; Bombay, 2 ♂ (*N. B. Kinnear, E. M. Janson*—type); Eastern Bengal, 1 ♀, viii.1907 (*B. Singh*).

Crinorrhinus griseus sp. n.

♂♀. Derm piceous to red-brown, rather thinly but even clothed above and below with short recumbent greyish setiform scales.

Head impunctate, thinly setose; forehead as broad as an eye, shallowly depressed and with a short median sulcus. *Rostrum* very shallowly separated from head, about as long as its basal width, narrowed from base to antennae, only slightly dilated at the genae and there not wider than at base; the dorsal area plane or shallowly depressed, almost parallel-sided in its basal half and there nearly as wide as the forehead; the lateral area with a fine carina uniting with the dorso-lateral one at middle and a short narrow sulcus adjoining it; one deep and one or two shallow sulci below the scrobe (usually hidden by scaling). *Antennae* with the scape rather strongly curved; funicle with joint 2 somewhat longer than 1, and 3 slightly longer than 4. *Prothorax* feebly rounded laterally, widest at the middle, base and apex of equal width (♀) or the base slightly narrower (♂), subtruncate at the base, the postocular lobes distinct; dorsum closely and coarsely punctate, the median carina more or less obsolete in ♀ and absent in ♂, with a shallow transverse impression beyond middle, the postmedian depressions very shallow and indefinite. *Elytra* parallel-sided from the roundly rectangular shoulders to beyond middle in ♂, only slightly wider behind middle in ♀, the apices separately rounded; the shallow striae with relatively small close punctures, the intervals broader than the striae, almost flat, without granules. *Legs* with sparse pale setae and no denser patch on the femora; femoral tooth rather large, triangular and carinate distally.

Length 3·7–5·0 mm., breadth 1·5–2·5 mm.

India: W. Bengal, Chota Nagpur, Barwa, 7 ♂, 14 ♀ (*P. Cardon*).

Crinorrhinus sartus sp. n.

♂♀. Derm red-brown, with fairly dense narrow (but not setiform) whitish scales, which are more sparse on the disk of the pronotum and sometimes replaced by brownish scales, the elytra mottled with variable confluent patches of brown scales; underside with uniform narrow grey scales.

Head with very shallow close punctation; forehead about as broad as an eye, flat, with a short median sulcus. *Rostrum* separated from head by a comparatively shallow impression, gradually narrowing from the base to the antennae, only slightly dilated at the genae and there scarcely wider than at the base, its length equal to its apical width; the dorsal area almost flat, more or less aciculate, without distinct punctures, with sparse setiform grey scales, the sharp lateral carinae slightly converging posteriorly, the median carina very fine and sometimes obsolescent; the lateral areas with a more or less distinct oblique carina near the dorso-lateral carina and uniting with it beyond the middle, and below this a very broad shallow squamose sulcus from base to scrobe; no sulcus below the scrobe. *Antennae* with the scape rather strongly curved; funicle with joint 2 slightly shorter than 1, 3 and 4 equal. *Prothorax* moderately rounded in the middle, shallowly constricted and of equal width at base and apex, the postocular lobes almost obsolete, the base truncate; dorsum closely punctate, with a very short low median costa behind middle, a low sublateral costa from base to middle, and a broad shallow transverse impression beyond middle, the usual two round postmedian impressions absent. *Elytra* slightly widened behind middle in ♂, more so in ♀, the shoulders prominent and roundly rectangular, the apices separately rounded; the shallow striae with strong punctures, the intervals slightly convex, smooth and shiny. *Legs* with fairly dense narrow pale scales; femora with a large triangular tooth.

Length 4·0–5·5 mm., breadth 1·5–2·2 mm.

India: United Provinces, Fyzabad, 3 ♂, 3 ♀ (*R. W. G. Hingston*).

Crinorrhinus sparsutus sp. n.

♂. Derm red-brown; prothorax with narrow inconspicuous dark scales on the disk and a broad lateral stripe of wider yellowish scales; elytra with very minute sparse brownish setae and scattered irregular spots (often confluent) of ovate fulvous scales, which are mostly in the striae and not more numerous laterally; underside with fairly dense white scales and white powdering.

Head aciculate, with sparse fine dark setae and a dense ring of fulvous scales round the eyes; forehead flat, about as wide as an eye, with a deep median sulcus. *Rostrum* longer than its basal width, separated from head by a rather shallow impression, parallel-sided in the basal half and strongly dilated at the genae; the dorsal area finely aciculate, impunctate, shallowly impressed in the middle, with a short median carina at the apex, the lateral carinae gradually converging behind; the lateral areas with an oblique carina uniting with the dorso-lateral carina beyond middle, and below it a very broad shallow oblique sulcus; a curved squamose sulcus below the scrobe. *Antennae* with the scape rather strongly curved; funicle with the two basal joints equal, and 4 as long as 3. *Prothorax* moderately rounded laterally, widest behind middle, constricted at the bisinuate base, which is narrower than the unconstricted apex, postocular lobes feeble; dorsum closely and coarsely punctate, with a trace of a low abbreviated median costa and a short sublateral costa on each side at base, the two round postmedian impressions distinct.

Elytra parallel (♂) from the rounded rectangular shoulders to behind middle, the apices separately and rather sharply produced; the shallow striae with large separated punctures, the intervals not or but slightly wider than the striae, feebly convex, smooth and shiny. *Legs* with sparse narrow pale scales and a patch of dense scaling near the apex of the femora; femoral tooth small, but triangular, and continued distally as a carina.

Length 5 mm., breadth 2 mm.

India: United Provinces, Fyzabad, 3 ♂, 3 ♀ (*R. W. G. Hingston*).

Crinorrhinus nebulosus sp. n.

♂♀. Derm piceous to red-brown, rather thinly clothed above with pale setae and with denser ovate fawn scales forming vague irregular patches, sometimes uniting to cover most of the elytra; underside with narrow whitish scales.

Head with transverse wrinkles on the vertex, almost impunctate and with dense narrow scales anteriorly; forehead wider than an eye, flat, with a short deep sulcus in front partly concealed by scaling. *Rostrum* separated from head by a deep impression, longer than its basal width, parallel-sided from base to scrobes and strongly dilated at the genae; the dorsal area rather deeply depressed, shallowly to obsoletely punctate, with a low median carina anteriorly, the lateral carinae moderately converging behind; the lateral areas with a strong carina uniting with the dorso-lateral one at about middle and immediately adjoining it externally a very deep narrow straight sulcus that is often partly concealed by the dense scaling on this area, and below this another very deep curved sulcus that is always concealed by scaling. *Antennae* with the scape moderately curved; funicle with joints 1 and 2 equal, 3 longer than 4. *Prothorax* slightly rounded laterally, widest at the middle, the apex a little narrower than the shallowly bisinuate base; dorsum with coarse close punctation, which is mostly concealed by scaling, the median carina very short and the postmedian impressions indistinct. *Elytra* widest behind middle in both sexes, obliquely rounded at the shoulders, the apices separately produced and acuminate; the shallow striae with rather large foveae that are more or less covered by scaling, the intervals not wider than the striae, feebly convex, shiny and without granules. *Legs* with rather sparse narrow whitish scales, with a denser subapical band on the posterior pairs; femoral tooth small, but triangular, and continued distally as a carina.

Length 6·5–7·5 mm., breadth 2·5–3·5 mm.

India: W. Bengal, Chota Nagpur, Barwa, 8 ♂, 9 ♀ (*P. Cardon*—type); Central Prov., Balaghat, Baihar, 3 ♂, 3 ♀, on *Terminalia orjuna* and *Lagerstroemia parviflora*, vii.1927 (*B. M. Bhatia*), C.P., Banjar Mandla, Kanha, 1 ♀, i.1927 (*B.M.B.*).

Book Notices.

Insect pests of stored products. By H. Hayhurst, photographs by H. Britten. 2nd edition. 8vo. London (Chapman and Hall), 1942. Price 15*s*. pp. x + 108, 55 pls.

The first edition of this work appeared in 1940 and was noticed in the *Proceedings* of that year. The fact that a second edition was required in so short a time indicates the need for a good book on the subject.

In the present edition a chapter on Siphonaptera has been added at pp. 43–45 with pls. 45–50 as illustrations and a list of parasitic and predacious insects and their hosts on p. 84. A bibliography extending to 21 pages has also now appeared for the first time. The main part of the text is printed unchanged from the first edition.

The same misprints appear on the explanations of plates: for example, the author's name Boield is several times wrongly given as " Boeild," and there are many inaccuracies in the Bibliography.

Insetos do Brasil. By A. da Costa Lima. 3°. Tomo. Homópteros. pp. 327, 267 figs. 8vo. (Rio de Janeiro), 1942. Escola nacional de Agronomia Série Didática 4.

This third volume of Dr. da Costa Lima's book is on the same lines as the earlier ones. It is concerned with the superfamilies Cicadoidea, Fulgoroidea, Membracoidea, Cercopoidea, Jassoidea, Psylloidea, Aphidoidea, Aleyrodoidea, and Coccoidea. In each case the characters of the superfamily are given and this is followed by the details of the several families, including general details and habits. Some notes are then given of the more interesting species and, in the case of noxious insects, methods of combating them. A generous supply of figures is given and each chapter is provided with a bibliography.

Outlines of Entomology. By A. D. Imms. pp. viii + 184, 96 figs. 8vo. London (Methuen) (1942). Price 12*s*. 6*d*.

" This book is intended for anyone who is willing to take sufficient pains to acquire an elementary knowledge of entomology as a branch of general zoology." The five chapters of the book deal with I. introduction; II. anatomy and physiology; III. embryology, growth and metamorphosis; IV. nomenclature and classification; and V. relationships of insects.

Notwithstanding the statement " This book is produced in complete conformity with the authorized economy standard," it is well and clearly printed and the only apparent effect is a volume less than half-an-inch in thickness.

Most of the illustrations are original. The author notes in his preface that some inconsistencies are to be found between this new work and his well-known *General Textbook of Entomology*, and adds that these will be corrected when circumstances permit the publication of a revised edition of the latter.

PEDRONIA STROBILANTHIS GREEN REDESCRIBED (HOMOPTERA, COCCOIDEA: PSEUDOCOCCIDAE)

By Raymond Mamet.
(*Rose Hill, Mauritius.*)

Typical specimens of this species have been received from Mr. E. E. Green and carefully studied in order to supplement his original description.

Though the specimens on which the present study is based were in a dry state, they had apparently been removed from their preservative fluid which has more or less completely dissolved their secretionary matter. In addition, all the limbs of the individuals examined were broken except, however, the coxae and, in two specimens, the hind femora and trochanters, which were in a good state of preservation. I will, therefore, quote the characters given in the original description, in respect of organs that could not be studied. References to the original description are placed between quotation marks and Green's name placed between brackets at the end of such quotations.

Thanks are due to Mr. E. E. Green who, with his usual kindness, has most readily sent me this part of his type material for study.

Pedronia strobilanthis Green.

1922, *The Coccidae of Ceylon* 5 : 364, pl. CXLIV.

Adult female elongate oval (fig. 1, *a*), "naked; brownish-red to purple-brown, with longitudinal series of small colourless glassy spiniform paired processes arising from stout sharply pointed conical spines arranged as in fig. 3 [1]" (Green). The arrangement of these spines (fig. 1, *a*) varies very little except, however, in the number of spines constituting the groups in the lateral longitudinal series on the abdominal region where they vary from 1 to 3 spines per group; when these spines in this series are in pairs or more, one is distinctly smaller than the rest (fig. 1, *b* and *b*[1]). The size of the spines varies: (1) those of the marginal series are smaller than those of the median longitudinal series and amongst themselves they show a small amount of variation in size: those of the abdominal and thoracic marginal regions are stouter than those of the frontal marginal region (fig. 1, *c* and *d*); (2) the spines of the lateral longitudinal series, *i.e.*, the series situated between the marginal and median longitudinal series, are distinctly stouter than those of the marginal series but smaller than those of the median longitudinal series; (3) the spines of the median longitudinal series (fig. 1, *l*) are distinctly stouter than the rest, especially in the abdominal region. All the spines, whether in the marginal, lateral or median series, are situated on short and conspicuous peduncles and are not accompanied by any pore; base of spines about $\frac{1}{2}$ to $\frac{3}{4}$ length of spines. *Eyes* normal, marginal. *Antennae* (fig. 1, *f*) short and stout; "six" (Green) or seven-jointed; terminal joint always the longest; second joint with a distinct sensorial pore near its apex. "Formula of six-jointed antenna: 6, 3, 1, (2, 5), 4" (Green). Formula of seven-jointed antenna: [2] 7, (1, 2, 3), 6, (4, 5). Distance between antennal bases about $\frac{1}{2}$ length of seven-jointed antenna. *Mouth-parts* fairly developed; mentum obscurely dimerous, apex bluntly pointed, base nearly equal to length; rostral loop extending up to the insertion of the mid legs. Anterior and posterior *spiracles* normal, without parastig-

[1] Fig. 3 of Plate CXLIV of *Coccidae of Ceylon*.
[2] Green's formula for the seven-jointed antenna runs as follows: 7, (1, 2), 6, (3, 4, 5).

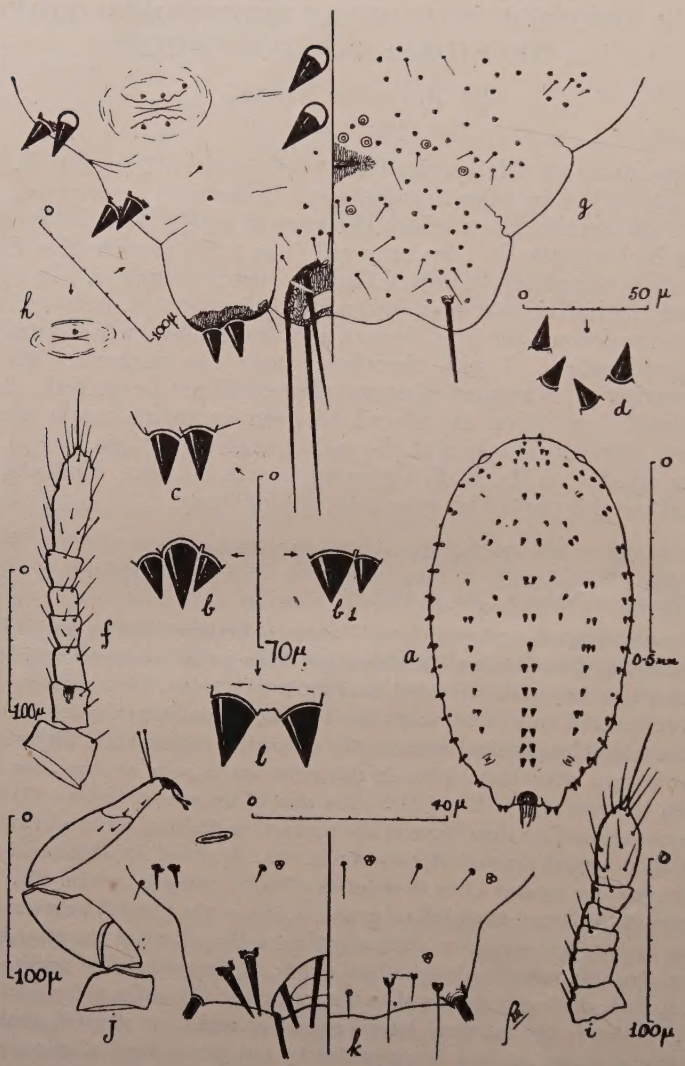

FIG. 1.—*Pedronia strobilanthis* Green—*a*, dorsal view of adult female; *b* and b^1, spines from lateral longitudinal series; *c*, paranal lobe spines; *d*, spines from frontal marginal region; *l*, spines from median longitudinal series; *f*, 7-jointed antenna; *g*, posterior extremity of adult female; *h*, anterior ostiole of adult female; *i*, antenna of larva; *j*, third leg of larva; *k*, posterior extremity of larva.

matic pores. "*Limbs* stout; tarsus (of mid leg) shorter than tibia; the two together scarcely longer than femur with trochanter; tarsal digitules slender, slightly knobbed; claw sharply pointed. I have been unable to detect any ungual digitules" (Green).[3] Coxa of hind pair of legs with a few minute translucent pores. *Posterior extremity* (fig. 1, *g*) with broadly rounded and faintly sclerotised *paranal lobes* bearing, on their dorsal surface and near their apex, two stout conical spines which are not accompanied by any concentration of pores or by auxiliary setae. On their ventral surface, the paranal lobes bear a fairly long seta, the anal lobe seta, arising from below their apex, and a few auxiliary short setae. *Anal ring* with six setae and the usual double row of beads of the ordinary types. According to Green's figure of the posterior extremity of the adult female, the anal lobe seta is distinctly shorter than the anal ring setae. There are no true *cerarii*, but the marginal series of paired conical spines, already referred to. *Dorsal dermis* with very few and sparsely distributed trilocular pores, very few short setae and the stout conical spines described above. *Ventral dermis* fairly crowded with trilocular pores; very few large *discoid pores* present around the vulvar region only. Ventral *setae* fairly numerous, especially in the frontal area where they are longer and stouter than anywhere else on the venter. Anterior and posterior dorsal *ostioles* small; anterior ostiole (fig. 1, *h*) smaller. Ventral ostiole not found.

Length: 1·0–1·2 mm.; breadth: 0·5–0·6 mm.

"No ovisac is formed, the insects being ovoviviparous" (Green).

Larva (from embryonic specimens only) elongate oval with stout six-jointed antennae (fig. 1, *i*); terminal joint longest. Limbs (fig. 1, *j*) stout; claw acutely pointed, without denticle; tarsal and ungual digitules fairly developed. Posterior extremity as shown in fig. 1, *k*. Anal ring large, with six setae. Dorsal dermis with stout setae and few trilocular pores; ventral dermis with more numerous trilocular pores and slender setae. Length: 0·40 mm.

"*Male puparium* pure white; narrow, about twice as long as broad; posterior extremity open. Length, 1·75 mm." (Green).

Host and Type Locality.—"On under surface of leaves of *Strobilanthes* sp.; CEYLON: Pedrotalagala (7000 ft.), Nuera Eliya" (*Green*); March 1898.

Remarks.—I here quote Mr. Green's remarks on this species:—

"The female insects are unusually active and move about with considerable rapidity.

"Although the character and arrangement of the spines is suggestive of the ERIOCOCCINAE, the abdominal extremity has not the highly chitinous and modified lobes characteristic of that family; and the terminal joint of the antenna is more like that found in *Pseudococcus* and its allies."

It may be added that the presence of dorsal ostioles will separate this species from the ERIOCOCCINAE.

Material examined.—Six adult females and three embryonic larvae from the type material received from Mr. E. E. Green.

The following generic diagnosis is based on the preceding description:—

Generic diagnosis of *Pedronia* Green.

Referable to the PSEUDOCOCCIDAE.

Adult female elongate oval, naked, neither enclosed in a sac nor producing an ovisac; ovoviviparous. Antennae six- to seven-jointed, terminal joint elongate and longest. Mouth-parts normal. Limbs stout; claw of legs presumably without denticle. Body

[3] As already mentioned, the limbs of the specimens forwarded to me by Mr. Green were all broken, except the coxae and, in two individuals, the hind femora and trochanters. I have been able to detect fairly developed ungual digitules in the larval stage.

with stout, conical, pedunculate spines on both dorsum and margin; these spines are distributed as follows: (i) a median dorsal longitudinal series composed of paired spines, (ii) a lateral dorsal longitudinal series composed of groups of 1–3 spines, (iii) a marginal series composed of paired spines. All these spines are accompanied neither by pores nor by setae. Dorsal dermis with very few trilocular pores and short setae. Ventral dermis with many trilocular pores, a few large discoid pores confined to the vulvar region, and fairly numerous longish setae. No true cerarii present. Anal ring normal, with two rows of beads and six setae. Dorsal ostioles small.

Larva (embryonic specimens only) elongate oval. Antennae stout, six-jointed, terminal joint longest. Claw of legs without denticle. Dermis with setae and trilocular pores. Anal ring with six setae.

Remarks.—The descriptions I have already given of this genus (Mamet 1937 : 173 and 1939 : 214) can stand as far as *Pedronia strobilanthis* Green and *P. strobilanthis tenuispina* Green are concerned. It has been necessary to erect a new genus for the reception of *Pedronia greeni* Mamet and *P. mauritiana* Mamet in another paper already published (Mamet 1942) in which redescriptions of these species have been included.

Pedronia spinigera Goux (1937 : 455), in my opinion and in that of Mr. Green (*in litt.*), does not belong to the genus *Pedronia* but apparently to *Acanthococcus* Kiritshenko (1935 : 155). The name of that genus is preoccupied by *Acanthococcus* Signoret (1875 : 34) which is itself a synonym of *Eriococcus* Targioni Tozzetti.

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THE EARLY STAGES OF *AËDES TAYLORI* EDWARDS AND *A. FURCIFER* EDWARDS (DIPT., CULICIDAE)

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Aëdes (*Diceromyia*) *taylori* Edwards, 1936.

Larva. Head. Antenna spiculate, with single or double seta near ½. Setae A, B and C with 6, 2 and 3 sub-plumose branches respectively; B in front of C. D with 6–10 branches. Mentum with outer teeth widely spaced. *Thorax.* Straight spines on meso- and metapleural plates. Well-developed stellate tufts of setae on dorsum. *Abdomen.* Numerous stellate tufts. Comb composed of about 10 simple spines in a straight row. Siphon dark brown, long, index 4·3 or 4·4; pecten extending to about ½, composed of 20–22 evenly spaced stout teeth, each with 3 or 4 secondary denticles; sub-ventral tuft just beyond pecten, 2–3 branched. Anal segment with posterior edge of saddle spiculate, upper caudal seta 6-branched, lower single, lateral seta 3- or 4-branched; ventral brush composed of 4 pairs of 4 or 5-branched tufts all within barred area, anterior tufts much shorter than posterior; gills rounded, upper pair about as long as segment and longer than lower.

Pupa. Trumpet brown with pale tip, narrow, and contracted apically. Lower post-ocular seta very long, single or double. Lower anterior antero-thoracic seta single, as long as or longer than lower postocular. Dorsal seta with 2–4 branches, nearly as long as trumpet and slightly longer than supra-alar. O and P single, R with 2 branches. P about 2 or 3 times as long as O and R. Float-hair with short stem and 5–12 sub-plumose branches. H short. K single, about 8 times as long as H. C II with 3 or 4 branches, C III with 3–5, C IV and V with 3 or 4, C VI with 1–3 and C VII single or double. B single, on II–V longer than segment, on VI about as long, on VII shorter than segment. A VII single, A VIII with 5–7 branches, more than half as long as paddle. Paddle approximately oval, with strong midrib and practically no external buttress, margin minutely denticulate before middle; seta single, slightly longer than paddle.

Sudan: Nuba mountains, Heiban, tree-holes, 2.vii.41, 12.x.41, 2 larval and 3 pupal pelts (*D.J.L.*).

Aëdes (*Diceromyia*) *furcifer* Edwards, 1913.

Little material is available at present but it is enough to show differences between Sudan specimens of the two closely related species. Some of these differences may later prove to be invalid if there is much variation. The larva of *A. furcifer* has been described from eastern Transvaal specimens by Ingram and De Meillon (1929). Sudan specimens show at least one distinct difference from the South African form in having a much longer siphon, an unusual feature in a tree-hole breeder. The pupa of *A. furcifer* has been described by Macfie and Ingram (1927) and Edwards (1941) from a single damaged specimen from the Gold Coast. Several details are added below. There are some small differences between the Sudan and West African specimens.

Larva. Differs from *A. taylori* as follows. *Head.* Seta A 9-branched, B 2- or 3-branched and C 5- or 6-branched. D with about 13 branches. *Abdomen.* Siphonal index 3·3 to 3·6, pecten with 20–29 teeth, slightly more than ½ length of siphon, subventral tuft 4-branched.

The mentum has 11 or 12 teeth on each side of the central tooth, the outer 4 on each side being widely spaced.

SUDAN: Heiban, tree-holes, 24, 30.vi.41, 2.vii.41, 2 larval and 3 pupal pelts all slightly damaged (*D.J.L.*).

Pupa. Trumpet not contracted apically, opening more oblique than in *taylori*. Lower postocular seta double or triple. O and R with 2 or 3 branches. Float-hair with 14–18 branches. M 3- to 7-branched, C II 4- or 5-branched, C V 2- to 4-branched, C VI double. A VII single or double, A VIII 4- to 6-branched. Paddle with distal end more flattened in outline than in *taylori*, seta about ⅔ as long as paddle.

Heiban, 24 and 30.vi.41, 2.vii.41, 3 slightly damaged pelts (*D.J.L.*).
Specimens will be sent to the British Museum (Natural History).

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